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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/996,108	11/28/2001	Johan Loccufier	27500-11	2519

7590 06/04/2003

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EXAMINER
FLETCHER III, WILLIAM P

ART UNIT	PAPER NUMBER
1762	11

DATE MAILED: 06/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/996,108	LOCCUFIER ET AL.	
	Examiner	Art Unit	
	William P. Fletcher III	1762	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 May 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☒ Other: *See Continuation Sheet* .

Continuation of Attachment(s) 6). Other: definitions of "polyolefin" and "fluid".

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 08 May 2003 (paper no. 10) has been entered.

Response to Arguments

2. Applicant's arguments with respect to claims 1 – 6, as amended, have been considered but are moot in view of the new ground(s) of rejection.

3. The remainder of applicant's arguments filed 08 May 2003 (in paper no. 10) have been fully considered but they are not persuasive.

Applicant argued that Breton is directed to acoustic ink-jet printing on paper and, consequently, there is no intention of using the inks of Breton on a metal surface: therefore the ability, or lack thereof, of oleophilizing a metal surface is not contemplated. The examiner notes that applicant has not claimed the nature of the lithographic printing plate; paper, metal, or otherwise. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Further, the disclosure of Breton is directed broadly to acoustic

ink-jet printing, and suitable inks therefore, compatible with a wide variety of substrates, of which plain paper is only an example [c. 5, ll. 27 - 30]. There is no evidence that acoustic ink-jet ink compositions, having azole-containing and/or imidazoline viscosity-modifying compounds, are limited to paper substrates, or that coating a metal substrate with these inks would/could not work — particularly in light of the fact that Breton teaches adjusting properties (such as viscosity) of acoustic ink-jet inks to control coating characteristics and that ink-jet printing on metal substrates is known (see Zerillo, for example). Consequently, this argument is not persuasive.

Applicant argued that one of ordinary skill in the art would not have chosen one single compound from among the many in the lengthy disclosure of Breton, absent hindsight reasoning. The examiner notes that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). It is the examiner's position that it would have been obvious to one of ordinary skill to deposit the fluid of Zerillo by the acoustic ink-jet method disclosed by Breton with the desire and expectation of improved resolution and greater reliability, as explicitly disclosed by Breton. Further, it would have been obvious to utilize, as the fluid, an ink with an imidazoline viscosity-modifying compound, based on the explicit suggestion to do so by Breton. The explicit suggestion of Breton comes from c. 9, ll. 4 - 6, where a short list of five viscosity-modifying agents — including 2-methyl-2-

imidazoline — is taught. Further, several azole-containing compounds are *explicitly* taught in c. 6. Consequently, this argument is not persuasive.

Applicant argued that, even if the combination of Zerillo and Breton were made, one would not be expected to use a viscosity compound from ink specific to improve the properties of an image on paper as an oleophilizing compound on a metal surface. Applicant further argued that, nowhere in the cited art is there any teaching that would lead a skilled artisan to correlate the properties of imaged paper with the ability of a compound to act as an oleophilizing agent. The examiner notes that, since the azole-containing compound and/or the viscosity-modifying compound form an integral part of the ink composition and remains on the receiving layer to form the ink-receptive image, it is the examiner position that these compounds are an integral part of the oleophilizing compound — thereby serving to oleophilize the surface of the lithographic receiver — and, since both have an amidine functional group in their chemical structures, meet applicant's claimed limitation of an oleophilizing compound having in its chemical structure an amidine functional group. Consequently, this argument is not persuasive.

With respect to applicant's arguments traversing the rejection of claim 7, the disclosure of Breton is directed broadly to acoustic ink-jet printing, and suitable inks therefore, compatible with a wide variety of substrates, of which plain paper is only an example [c. 5, ll. 27 - 30]. There is no evidence that acoustic ink-jet ink compositions, having azole-containing and/or imidazoline viscosity-modifying compounds, are limited to paper substrates, or that coating a metal substrate with these inks would/could not work — particularly in light of the fact that Breton teaches adjusting properties (such as viscosity) of the inks to control coating

characteristics and that ink jet printing on metal substrates is known (see Zerillo, for example). Consequently, this argument is not persuasive.

Applicant argued that the present invention specifically excludes polymers. The examiner notes that the limitation excludes *only polyolefins*. Otherwise, the claims currently do not exclude other polymeric inks or oleophilizing compounds. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Consequently, this argument is not convincing.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 1 – 10 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Applicant's amendment to claim 1 adds the limitation "with the proviso that R3 and R4 are not polyolefin." The examiner has interpreted "polyolefin" as: "A class or group name for thermoplastic polymers derived from simple olefins; among the more important being

polyethylene, polypropylene, polybutenes, polyisoprene, and their co-polymers."[1] The originally-filed application discloses that R3 and/or R4 may be an unsubstituted, saturated aliphatic group. In light of the above definition, it is the examiner's position that an unsubstituted, saturated aliphatic group reads on a "polyolefin." As such, since the originally-filed disclosure does not explicitly exclude polyolefin, it does not support the newly added negative limitation that R3 and R4 are not polyolefin.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 4 and 15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

These claims recite "...in an amount ranging from 0.01 to 6 % by weight." It is unclear with respect to what this wt.-% measurement is taken. Is it with respect to the overall weight of the fluid? Is it with respect to the solids content of the fluid?

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for

[1] *Hawley's Condensed Chemical Dictionary*, 12th Edition, © 1993 by Van Nostrand Reinhold, p. 938, see attached.

patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. Claims 1 –6 and 12 – 17 are rejected under 35 U.S.C. 102(e) as being anticipated by Kato (US 6,098,545).

Kato teaches a method for the preparation of a lithographic printing plate [claim 1; c. 51, l. 31]. The method comprises dispensing information-wise, by means of ink-jet printing, droplets of a fluid onto the surface of a lithographic receiver [c. 31, ll. 1 – 13; claim 1; c. 51, ll. 21 – 24 and ll. 30 – 32]. The fluid contains an oleophilizing compound having in its chemical structure an amidine functional group capable of reacting with the surface of the lithographic receiver [c. 13, l. 15 and c. 15, l. 50]. This amidine group serves to link the two components (I and II) of the macromonomer (MA) together. Components I and II, illustrated at c. 3, l. 30 and c. 4, l. 25, respectively, correspond to applicant's groups R3 and R4.

With respect to claim 1, components I and II may be various substituted or unsubstituted aliphatic or aromatic groups. See, for instance, the definitions of a^1, a^2, b^1, b^2, D^0, V^0, and V^1. Components I and II both possess a high degree of substitution by numerous and varied functional groups. Based on the definition of "polyolefin" given above, it is the examiner's position that such highly functional components do not read on "polymers derived from simple olefins" and, consequently, satisfy the proviso that R3 and R4 are not polyolefin.

With respect to claim 12, as noted above, both components I and II may contain aryl groups, such as when V^0 and V^1 = phenylene. In at least this way, components I and II read on groups R3 and R4 in claim 12.

Note: A "fluid" is defined as "a substance (as a liquid or gas) tending to flow or conform to the outline of its container."[2] Based on this definition, it is the examiner's position that the liquid dispersion of resin particles satisfies applicant's limitation requiring a fluid.

Note: The examiner has interpreted "oleophilizing" as "rendering oleophilic." The examiner has interpreted "oleophilic" according to its common, art-recognized and art-specific definition: "receptive to printing inks."[3] Therefore, the examiner has interpreted "oleophilizing" as "rendering receptive to printing inks." Since the resin deposited by the ink-jet is ink receptive in a lithographic printing process, it is the examiner's position that the resin is oleophilizing [see, for example, c. 31, ll. 47 – 54].

Note: Insofar as the oleophilizing compound remains on the surface of the lithographic receiver and forms an ink-receptive image, it is the examiner's position that the oleophilizing compound as a whole, as well as any functional groups it may contain, is/are capable of reacting with the surface of the lithographic receiver.

With respect to claims 2, 3, 13, and 14, Kato teaches that the amidine group is a heterocyclic amidine group, specifically, an imidazoline group [c. 13, l. 15 and c. 15, l. 50].

With respect to claims 4 and 15, Kato teaches that the oleophilizing compound is present in said fluid in an amount ranging from 0.1% to 20% by weight [c. 17, l. 41].

With respect to claims 5 and 16, Kato teaches that the fluid further contains a colorant [c. 23, ll. 25 – 30].

With respect to claims 6 and 17, Kato teaches that the surface of the lithographic receiver is metallic, specifically aluminum (Al) [c. 27, ll. 38 – 45].

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[2] *Merriam-Webster's Collegiate Dictionary*, 10th Edition, © 1998 Merriam-Webster, Inc., p. 449, see attached.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

11. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

12. Claims 1 – 4, 6 – 15, and 17 – 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leenders et al. (US 5,501,150) in view of Boston (US 4,223,087).

Leenders teaches a method for the preparation of a lithographic printing plate. The method comprises forming a silver image on a lithographic receiver, followed by oleophilizing the silver image by applying a compound that both oxidizes and fixes the silver image [abstract and c. 8, l. 58 – c. 9, l. 22]. The lithographic receiver may either be a grained and anodized

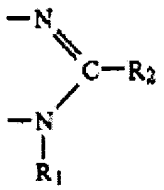
[3] See, for example, c. 1, ll. 10 – 20 of US 3,131,630, attached.

aluminum plate or a support with a hydrophilic receiving layer thereon containing SiO_2 or TiO_2 therein [c. 9, l. 34 – c. 10, l. 60 and c. 10, l. 61 – c. 11, l. 40]. The lithographic oxidizer/fixer imparts a strong hydrophobic (i.e., oleophilic) character to the oxidized silver image, and is applied image-wise by means of ink-jet printing [c. 8, l. 58 – c. 9, l. 22].

While Leenders teaches that the lithographic oxidizer/fixer comprises organic compounds with groups including HS-C=N and S=C-NH, the reference does not, explicitly, teach the amidine group-containing compounds recited in claims 1, 11, and 12.

Boston teaches a method for the preparation of a lithographic printing plate very similar to that of Leenders. The method comprises forming a silver image on a lithographic receiver, followed by oleophilizing the silver image by applying a compound that both oxidizes and fixes the silver image [abstract and c. 3, l. 22 – c. 4, l. 64]. The lithographic receiver is a support with a hydrophilic receiving layer thereon [see Examples]. The oxidizer/fixer comprises a salt solution of a ferricyanide anion and organic cation complexing agent [c. 3, l. 22 – c. 4, l. 66]. The ferricyanide anion serves to oxidize the silver image while the organic cation forms a water-insoluble, oleophilic complex with the oxidized silver image. Examples of the cation include cyclic and acyclic amidines defined at c. 4, ll. 29 – 66 as:

Examples of nitrogen-substituted hydrocarbon compounds include cyclic and acyclic amidines, i.e., compounds having the formal chemical grouping:



wherein R_1 and R_2 may be hydrogen, hydrocarbons, or nitrogen-substituted hydrocarbons in any of the classes, alkyl, aryl, or aralkyl, and where cyclic or ring-structured amidines are completed by hydrocarbon groups to provide 5- or 6-membered ring structures. Exemplary acyclic amidines include acetamidine, benzamidine, guanidine and biguanide. Typical cyclic amidines include 2-propyl-2-imidazoline, 2-pentyl-2-imidazoline, 2-benzyl-2-imidazoline and naphthazoline.

Further examples of suitable complexing agents include aromatic nitrogen-substituted heterocyclic aromatic compounds, such as 5- and 6- membered cyclic or bicyclic compounds containing one or more nitrogen atoms therein, including mono-substituted or poly-substituted hydrocarbon or nitrogen functional hydrocarbon derivatives thereof. Exemplary aromatic heterocyclic compounds include 2-methylimidazole, 1-benzylimidazole, 1-butylimidazole, 2-undecylimidazole, 2,2'-dipyridylamine, 2,4-lutidine, pyridine, and N-aminopyridine. Bicyclic compounds include benzimidazole, 2-methylbenzimidazole, 1-ethyl-2-methylbenzimidazole.

The aromatic nitrogen heterocyclic compounds should all contain at least one nitrogen atom in the parent ring structure which is sterically unhindered, so as to be capable of coordination to a silver ion, i.e., capable of forming a chemical bond therewith.

R1 and R2 in Boston are analogous to applicant's R3 and R4, respectively. With respect to claim 1, it is the examiner's position that this teaching reads on compounds in which R3 and R4 are not polyolefin. With respect to claim 11, it is the examiner's position that this teaching reads on several of the compounds recited in this claim. See, for example, the last compound on

p. 7 of paper no. 10. Here, R3 is nitrogen-substituted hydrocarbon and R4 is a hydrocarbon. With respect to claim 12, it is the examiner's position that this teaching reads on compounds where R3 and R4 are aryl.

To summarize: Leenders teaches a method of manufacturing a printing plate in which an oxidizing/fixing solution is applied, image-wise, via ink-jet printing to a silver image. This oxidizing/fixing solution contains both hexacyanoferrate(III) ions and organic compounds containing NH-groups. Boston teaches a similar method in which an oxidizing/fixing solution is specified to include $[Fe(CN)_6]^{3-}$ ions and an amidine compound as recited in applicant's claims. Since both references disclose utilizing the oxidizing/fixing solutions in the same fashion to the same end, it would have been obvious to one of ordinary skill in the art to modify the method of Leenders so as to apply, image-wise via ink-jet printing, as the oxidizing/fixing solution, the oxidizing/fixing solution of Boston. One of ordinary skill in the art would have been motivated to do so by the desire and expectation of successfully rendering the lithographic printing plate oleophilic.

With respect to claims 4 and 15, Boston teaches a specific example in which the amidine-containing compound is added in an amount of approximately 17 % by weight based on the total solids content of the oxidizing/fixing solution [c. 6, ll. 30 – 40] It is, however, the examiner's position that the amount of fixing cation in the solution is a result-effective variable determining the resulting oleophilicity of the plate. Absent clear and convincing evidence demonstrating the criticality of the claimed wt.-% range, it would have been obvious to one of ordinary skill in the art to optimize such a result-effective variable by routine experimentation. [See MPEP § 2144.05(II)(A): Generally, differences in concentration will not support the patentability of

subject matter encompassed by the prior art unless there is evidence indicating such concentration in critical. "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation. See also MPEP § 716.01(c): the arguments of counsel cannot take the place of evidence in the record. Examples of attorney statements which are not evidence and which must be supported by an appropriate affidavit or declaration include statements regarding unexpected results.]

With respect to claims 9, 10, and 20, it is the examiner's position that SiO_2 and TiO_2 read on inorganic pigments.

With respect to claims 8 and 19, it is the examiner's position that the binders taught by Leenders, at c. 11, ll. 3 – 34, read on cross-linked or cross-linkable binders.

13. Claims 1 – 6 and 12, 13, and 15 – 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zerillo (US 4,833,486) in view of Breton et al. (US 6,106,599).

Zerillo teaches a method for the preparation of a lithographic printing plate [c. 1, l. 60 – c. 2, l. 44]. The method comprises dispensing information-wise, by means of ink-jet printing, droplets of fluid onto the surface of a lithographic receiver [c. 1, l. 60 – c. 2, l. 44]. Specifically, the process of Zerillo comprises melting a solid ink that is applied in liquid form by the ink-jet and solidifies essentially upon contact with the receiver [c. 3, ll. 20 – 26].

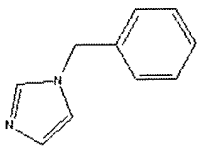
Note: The examiner has interpreted the tern "oleophilizing" as above. More specifically, Zerillo teaches: "The hydrophobic image repels the water but attracts the ink, and thus ink is applied to the image. The inked image is then used to make lithographic copies" [c. 1, ll. 18 –

21]. Therefore, it is the examiner's position that the ink deposited by the ink-jet in the method of Zerillo is an oleophilizing compound.

Note: The ink of Zerillo may be a solid that is melted and applied as a liquid [c. 3, ll. 20 – 26]. The examiner has interpreted the term "fluid" as above. Again, since the ink is liquid — at least during its application — it is the examiner's position that the ink is a fluid.

Zerillo does not teach that the fluid contains an oleophilizing compound having in its chemical structure an amidine functional group capable of reacting with the surface of the lithographic plate.

Breton teaches an acoustic ink-jet printing method and inks for use therein [c. 1, ll. 20 – 26]. In this method, a phase-change ink (i.e., an ink that changes phase from solid to liquid and is applied as a liquid) is jetted from an ink-jet with the aid of acoustic energy [c. 5, ll. 24 – 67]. Breton teaches that an acoustic ink-jet method is superior to conventional ink-jet methods because it provides improved resolution and exhibits greater reliability [c. 14, l. 14 – c. 15, l. 39]. Breton teaches that inks especially-suited for use with this acoustic ink-jet method comprise various azole compounds, including 1-benzylimidazole [c. 6, l. 54]:

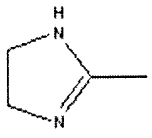


With respect to both claims 1, 2, 12, and 13, R3 is aryl and R4 is hydrogen. Neither R3 nor R4 are polyolefin.

It would have been obvious to one of ordinary skill in the art, to modify the method of Zerillo so as to deposit the fluid by the acoustic ink-jet method disclosed by Breton with the desire and expectation of improved resolution and greater reliability. Further, it would have been obvious to one of ordinary skill in the art to utilize, as the ink, the ink taught by Breton. One of ordinary skill would have been motivated to do so by the explicit teaching of Breton that such an ink is well-suited to an acoustic ink-jet printing method. Further, Zerillo places no limitation on the ink that may be used to oleophilize the surface of the lithographic printing plate. Since the azole-containing compound taught by Breton has, in its chemical structure, an amidine group, absent evidence to the contrary, it is the examiner's position that one of ordinary skill in the art would have recognized that such an ink could be successfully be utilized to oleophilize the printing plate in the method of Zerillo.

Note: Insofar as the ink remains on the surface of the lithographic receiver and forms as ink-receptive image, it is the examiner's position that the ink as a whole, as well as any components and/or functional groups it may contain, is/are capable of reacting with the surface of the lithographic receiver.

With respect to claim 3, Breton also teaches that the inks especially suited for use with this acoustic ink jet method comprise a viscosity-modifying compound which may be 2-methyl-2-imidazoline [c. 9, l. 5]:



It is the examiner's position that this compound reads on that recited in claim 1 (see above).

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the process of Zerillo so as to deposit the fluid by the acoustic ink jet method disclosed by Breton et al. with the desire and expectation of improved resolution and greater reliability. Further, it would have been obvious to utilize, as the fluid, an ink with an imidazoline viscosity-modifying compound, based on the explicit suggestion to do so by Breton et al.

Note: Since the viscosity-modifying compound forms an integral part of the ink composition and remains on the receiving layer to form the ink-receptive image, it is the examiner's position that the viscosity-modifying compound is an integral component of the oleophilizing compound — thereby serving to oleophilize the surface of the lithographic receiver — and, since it has an amidine functional group in its chemical structure, meets applicant's claimed limitation of an oleophilizing compound having in its chemical structure an amidine functional group.

Note: Insofar as the ink remains on the surface of the lithographic receiver and forms an ink-receptive image, it is the examiner's position that the ink as a whole, as well as any components and/or functional groups it may contain, is/are capable of reacting with the surface of the lithographic receiver.

With respect to claims 4 and 15, Breton teaches that the azole-containing compound is present in the fluid in an amount ranging from about 1% to about 98% by weight [c. 6, ll. 26 – 28]. This range overlaps applicant's claimed range of 0.01% to 6% by weight. In the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a *prima facie* case of obviousness exists [see MPEP § 2144.05(I)].

With respect to claims 5 and 16, both Zerillo and Breton teach that the fluid further contains a colorant [Zerillo, c. 4, ll. 22 – 46 and Breton, c. 7, ll. 52 – 53].

With respect to claims 6 and 17, Zerillo teaches that the surface of the lithographic receiver is metallic; in a specific example, aluminum (Al) [c. 3, ll. 31 – 41].

14. Claims 7 and 18 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Zerillo in view of Breton et al., as applied to claims 6 and 17 above, in further view of Arimatsu et al. (US 5,312,654).

Zerillo in view of Breton et al. teach all the limitations of this claim, as described above, except: that the metallic surface of the lithographic receiver is a grained and anodized aluminum.

At c. 3, ll. 31 – 41, Zerillo teaches that any hydrophilic receiver may be used, with an Al receiver being particularly favored for its durability. Arimatsu et al. teach that, when manufacturing a lithographic printing plate by an ink jet process similar to that of Zerillo, and when the lithographic receiver is an aluminum plate, that "it is preferable to subject the plate to a graining treatment...followed by an anodizing treatment" [c. 6, ll. 7 – 14].

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the process of Zerillo in view of Breton et al., so as to grain and anodize the aluminum lithographic support. One of ordinary skill in the art would have been motivated to do so by both the teaching of Zerillo that any hydrophilic support may be used (especially Al) and the explicit teaching of Arimatsu et al. that doing so is preferable.

15. Claims 8 – 10, 19, and 20 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Zerillo in view of Breton et al., as applied to claims 1 and 12 above, in further view of Toyama et al. (US 4,686,138).

Zerillo in view of Breton et al. teach all the limitations of these claims except: with respect to claim 8 and 19, that the lithographic receiver comprises a support and a cross-linked hydrophilic layer; with respect to claims 9 and 20, that the hydrophilic layer comprises an inorganic pigment; and, with respect to claim 10, that the inorganic pigment is chosen from an oxide or hydroxide of beryllium (Be), magnesium (Mg), aluminum (Al), silicon (Si), gadolinium (Gd), arsenic (As), indium (In), tin (Sn), antimony (Sb), tellurium (Te), lead (Pb), bismuth (Bi), titanium (Ti), or a transition metal.

At c. 3, ll. 31 – 41, Zerillo teaches that any hydrophilic receiver may be used, including paper plates known in the art. Toyama et al. teach a lithographic receiver comprising a support (which may be paper) and a cross-linked hydrophilic layer [c. 3, ll. 10 – 35 and c. 4, l. 65 – c. 5, l. 5]. The cross-linked hydrophilic layer further contains an inorganic pigment with particularly preferred examples being oxides of silicon (Si) [c. 3, ll. 36 – 43]. Toyama et al teach that their receiver possesses good hydrophilicity and fixes printing inks well [c. 2, ll. 8 – 12].

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the process of Zerillo in view of Breton et al. so as to utilize, as the lithographic receiver, the receiver of Toyama et al. One of ordinary skill in the art would have been motivated to do so by the teaching of Zerillo that any hydrophilic support may be used (including paper) and the teaching of Toyama et al. that their support gives improved hydrophilicity and fixing of printing inks.

Conclusion

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to William P. Fletcher III whose telephone number is (703) 308-7956. The examiner can normally be reached on Monday through Friday, 9 AM to 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive P. Beck can be reached on (703) 308-2333. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

William Phillip Fletcher III
Patent Examiner
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Group Art Unit 1762

BRET CHEN
PRIMARY EXAMINER

wpf
June 2, 2003